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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,483	09/30/2003	Nimal Gamini Senarath	0583P48US01	1539
26123	7590	03/09/2006	EXAMINER	
BORDEN LADNER GERVAIS LLP			NGUYEN, KHAI MINH	
WORLD EXCHANGE PLAZA			ART UNIT	
100 QUEEN STREET SUITE 1100			PAPER NUMBER	
OTTAWA, ON K1P 1J9			2687	
CANADA			DATE MAILED: 03/09/2006	

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/673,483

Applicant(s)

SENARATH ET AL.

Examiner

Khai M. Nguyen

Art Unit

2687

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-20 is/are allowed.
- 6) ☒ Claim(s) 1-3, 21 and 22 is/are rejected.
- 7) ☒ Claim(s) 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is response to Amendment filed on 12/22/2005
Claims 1-23 are pending.

Response to Arguments

2. Applicant's arguments with respect to claims 1-23 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Ahl et al. (U.S.Pat-5448753).

Regarding claim 1, Ahl teaches a method for reducing interference between adjacent cells of a cellular radio system (fig.5-6, 9-10, col.4, lines 1-22), comprising:

(a) in a cell of said cellular radio system (fig.5-6, 9-10), transmitting traffic along a downlink beam to a first user terminal during a first time slot (fig.5-6, 9-10, 18, abstract, col.4, lines 1-22, col.5, line 46 to col.6, line 2, claim 3);

(b) rotating said downlink beam by a predetermined angle (fig.14, col.4, line 64 to col.5, line 6);

(c) transmitting along said downlink beam to a further user terminal during a second time slot (fig.5-6, 9-10, 18, abstract, col.4, lines 1-22, col.5, line 46 to col.6, line 2, claim 3); and

(d) repeating steps (a), (b), and (c) until the entire area of cell is covered (fig.5-6, 9-10, 18, col.2, lines 60-67).

Regarding claim 2, Ahl teaches the method of claim 1, wherein said predetermined angle is a part of the width of said downlink beam (fig.14, col.4, line 64 to col.5, line 6).

Regarding claim 3, Ahl teaches the method of claim 1, wherein said steps (a) through (d) are performed in a cyclic manner (fig.5-6, 9-10, 18, col.2, lines 60-67).

Regarding claim 21, Ahl teaches a method for controlling interference between first and second traffic carrying beams of adjacent cells of a cellular radio system (fig.5-6, 9-10, abstract, col.4, lines 1-22), said method comprising:

(a) rotating a first beam along a plurality of successive orientations according to a first rotation scheme (fig.5-6, 9-10, abstract, col.4, lines 1-22);

(b) rotating a second beam along a plurality of successive orientations according to a second rotation scheme (fig.5-6, 9-10, abstract, col.4, lines 1-22);

(c) identifying different timeslots with varying quality created by said first and second rotation schemes (fig.5-6, 9-10, 18, abstract, col.3, lines 43-65, col.4, lines 1-22, col.5, line 46 to col.6, line 2, claim 3); and

(d) selecting a reception timeslot from said different timeslots that corresponds to an optimal C/I ratio for user equipment residing within a location covered by both said first and second beams (fig.5-6, 9-10, 18, abstract, col.3, lines 43-65, col.4, lines 1-22, col.5, line 46 to col.6, line 2, claim 3).

Regarding claim 22, Ahl teaches the method of claim 20 wherein steps (c) and (d) include using orthogonal cyclic patterns for said first rotation scheme and said second rotation scheme (fig.5-6, 9-10, 18, abstract, col.3, lines 43-65, col.4, lines 1-22, col.5, line 46 to col.6, line 2, claim 3).

Allowable Subject Matter

4. Claim 23 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4-20 are allowed.

5. Regarding claim 4: The following is an examiner's statement of reasons for allowance: Prior art teaches in a cellular communication system of the type where base stations are equipped with directional antennas that can assume one of I number of directions of transmissions where $I > 2$, a method of increasing downlink coverage and traffic capacity. However, prior art fails to teaches a first base station, successively directing a first radio beam in I number of directions $A(i)$ according to a first beam rotation scheme, where $i \in [2, I]$; and at a second base station adjacent to said first base station, successively directing a second radio beam in I number of directions $B(i)$ according to a second beam rotation scheme; wherein said first beam rotation scheme

and said second beam rotation scheme form J number of reception timeslots T(j) for user equipment located within said first radio beam and said second radio beam, each of said reception timeslots T(j) having different channel conditions, and said second base station allocating said reception timeslots T(j) according to quality of service requirements of each said user equipment.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue and, to avoid processing delays, should preferably accompany the issue fee. Such submission should be clearly labeled "Comments on Statement of Reason for Allowance."


Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 571.272.7923. The examiner can normally be reached on 8:00-5:00.

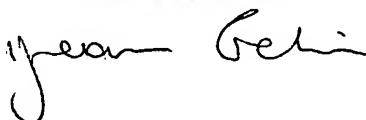
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George En can be reached on 571.272.7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2687

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Khai Nguyen
AU: 2687

JEAN GELIN
PRIMARY EXAMINER



3/4/2006